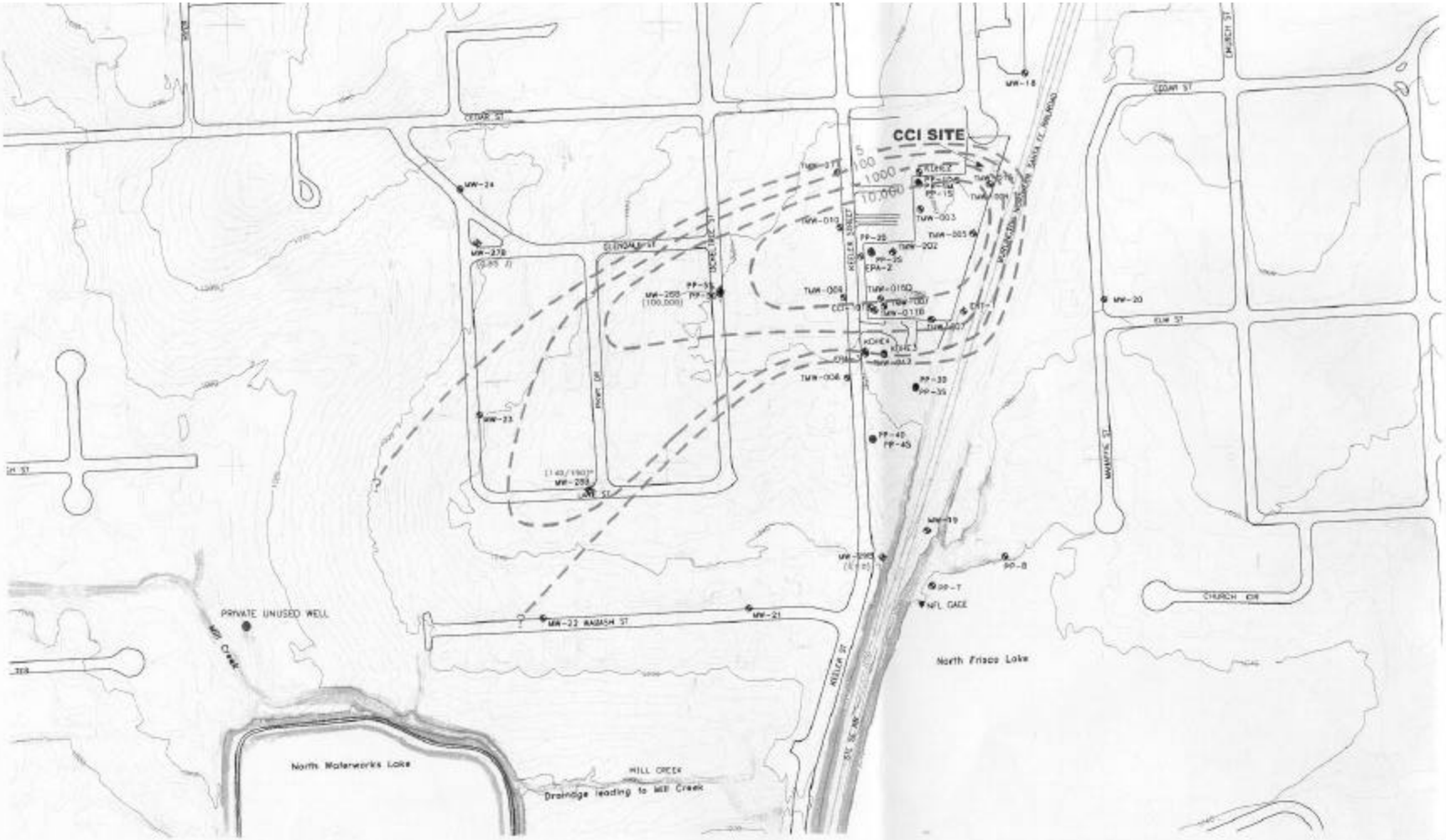
CCI Site
B-4
B-5
B-6
B-7
B-1
B-2
B-3
North Frisco Lake
CEDAR ST
ELM ST
WABASH ST
GLENDALE ST
LANE ST
KEFLER ST
KEFLER STREET
MAHAFFIE ST
Mill Creek
MW-18
MW-19
MW-20
MW-21
MW-22
MW-23
MW-24
MW-25
GP-A
GP-K
GP-L
GP-M
GP-N
GP-O
GP-P
GP-Q
GP-R
GP-U
GP-AA
GP-BB
GP-CC
GP-01
GP-02
GP-03
GP-04
GP-05
GP-06
GP-07
GP-08
GP-13
GP-14
GP-15
GP-15B
GP-16
GP-42
PP-1S
PP-2D
PP-2S
PP-3D
PP-3S
PP-4D
PP-4S
PP-5S
5



LEGEND

- MONITORING WELL
- ▼ GAGE STATION
- (100,000) TRICHLOROETHYLENE CONCENTRATION (ug/L)
- * DUPLICATE SAMPLES

0 300 600

SCALE IN FEET

-003 B27


CEDAR ST
GLENDALE ST
LANE ST
PKWY DR
OCHELTREE ST
320 S. BLAKE
CCI
SW
C
S
0
200
SCALE IN FEET
RESIDENCE
RESIDENCE WITH 2000 INDOOR/OUTDOOR AIR SAMPLES, MAY 2001, SEPT. 2001, DEC. 2001/JAN 2002 INDOOR AIR SAMPLES
RESIDENCE WITH 2000 INDOOR/OUTDOOR AIR SAMPLES
RESIDENCE WITH 2000 INDOOR AIR SAMPLES
RESIDENCE WITH MAY 2001 INDOOR AIR SAMPLES
RESIDENCE WITH MAY 2001, SEPT. 2001, DEC. 2001/JAN 2002 INDOOR AIR SAMPLES
RESIDENCE WITH SEPT. 2001, DEC. 2001/JAN. 2002 INDOOR AIR SAMPLES
CCI SITE
RESIDENCE WITH SUMP WATER SAMPLE
RESIDENCE WITH CRAWL SPACE SAMPLE
RESIDENCE WITH SOIL SAMPLE
- Residences sampled Sept-Oct 2002

Figure 1

Table 1. 318 Keeler - Crawlspace And Indoor Air Results

Sample #	29	30	30 FD	31	32
Location Description	SW Crawlspace	SE Crawlspace	Duplicate	Bedroom	Family Room
Collection Date	10/010/11	10/10-/11	10/10-10/11	10/10-10/11	10/10-10/11
Carbon Tetrachloride	0.301	0.153	0.441	1.2 U	0.256
Chloroform	0.402	0.035 U	0.893	0.94 U	0.293
Chloromethane	0.273	4.2	0.357	0.966	1.74
1,2-Dichloroethane	0.304	0.029	0.987	0.78 U	0.0987
1,1-Dichloroethene	8.87	0.028 U	72.5	2.54	4.43
cis 1,2-Dichloroethene	306	0.121	967	101	101
trans 1,2-Dichloroethene	5.24	0.028 U	18.5	0.77 U	2.22
Methylene Chloride	0.177	46 U	5.3	1.9 U	1.7 U
1,1,2,2-Tetrachloroethane	0.122	0.049 U	0.314	1.3 U	0.251
Tetrachloroethene	11.7	0.248	36.5	4.07	6
1,1,1-Trichloroethane	19.4	0.194	150	5.55	8.87
Trichloroethene	186	0.186	377	30.6	81.9
Vinyl Chloride	0.114	0.018	0.148	0.47 U	0.0416

U: not detected

Concentrations are in ug/m^3: microgram per cubic meter of air

Table 6. 331 S. Keeler - Crawlspace And Indoor Air Results

Sample #	1	2	3	12
Location Description	Crawlspace	Crawlspace	Family Room	Crawlspace
Collection Date	9/11-9/12	9/11-9/12	9/11-9/12	9/19-9/20
Carbon Tetrachloride	0.058 U	0.09 U	0.07 U	28.1
Chloroform	0.045 U	0.069 U	0.055 U	993
Chloromethane	0.0735	0.462	0.176	1150
1,2-Dichloroethane	0.037	0.058 U	0.045 U	3.29 U
1,1-Dichloroethene	0.0443	0.0725	0.044	1.69 U
cis 1,2-Dichloroethene	6.45	1.69	0.766	60.5
trans 1,2-Dichloroethene	0.036 U	0.056 U	0.044 U	3.87 U
Methylene Chloride	0.092 U	1.66	0.166	388
1,1,2,2-Tetrachloroethane	0.063 U	0.098 U	0.077 U	6.84 U
Tetrachloroethene	0.496	0.614	0.414	10.3
1,1,1-Trichloroethane	0.233	0.283	0.277	7.77
Trichloroethene	13.1	22.4	12	104
Vinyl Chloride	0.026	0.052	0.029 U	1.71 U

U: not detected

Concentrations are in ug/m^3: microgram per cubic meter of air


CEDAR ST
GLENDALE ST
LANE ST
PKWY DR
KEELER ST
KEELER STREET
OCHELTREE ST
Chemical Commodities, Inc. Property
Warehouse
BURLINGTON NORTHERN
506A
506B
506C
506D
506E
506F
510
512
514
516
518
520
522
524
511
513
515
517
519
523
3301
504/506
600/602
604/606
608/610
3307/3305
4403/4401
4407/4405
507/505
4401/4403
4405/4407
4409/4411
4411
4413/4415
4414
4415
4417/4419
4422/4424
4417
4419
4421
4423
4425
4427
4429
4431
4402/4404
4406/4408
4410/4412
4414/4416
4418/4420
4426/4428
2219
2221
2218
2220
2222
2224
2226
219
227
233
216
220
226
230
217
221
225
231
226
3300
3302
3304
3306
301
303
311
317
319
4400
4402
4404
4405
4407
4408
4410
325
331
335
401
405
4412
4414
4416
4433
509
513
519
303
302
301
312
318
316

Step One
Preliminary Work

- Contact residents
- Preferably in person at the residence
- Bring fact sheet
- Explain rationale for sampling

Step Two
Sample Preparation

- Prepare Residence for Sampling
- Inspect Residence
- Seal all Cracks in Foundation
- Complete indoor air survey
- Explain instructions

Indoor Air Quality Building Survey

Date: _____

Address: _____

_____

Residential Contact: _____

Phone: Home: ( ) - Work: ( ) -

List of Current Occupants/Occupation:

Age (If under 18)	Sex (M/F)	Occupation

Building Construction Characteristics:

What type of building do you have? (Circle appropriate response)

Single Family	Multiple Family	School	Commercial
Ranch	2-Family		
Raised Ranch	Duplex		
Cape	Apartment House		
Colonial	#of units____		
Split Level	Condominium		
Mobile Home	#of units____		
Other_____	Other_____		

General Description of Building Construction

Material:_____

How many occupied stories does the Building have? _____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Others(specify)_____

What type of basement does the building have?

Full Basement Crawlspace Slab-on-grade Other(specify)_____

What are the characteristics of the basement? (Circle all that apply)

	Basement Floor:	Foundation Walls:	Moisture:
Finished	Concrete	Poured Concrete	Wet
Unfinished	Dirt	Block	Damp
	Other_____	Stone	Dry

Is a basement sump present? (Y/N) _____

Does the basement have any of the following characteristics (i.e., preferential pathways into the building) that might permit soil vapor entry? (Circle all that apply)

Cracks Pipes/Utility Conduits Foundation/Slab Drainage

Sump pumps Other_____

Heating and Ventilation System(s) Present:

What type of heating system(s) are used in this building? (Circle all that apply)

Hot Air Circulation Heat Pump Steam Radiation Wood Stove

Hot Air Radiation Unvented Kerosene Heater

Electric Baseboard Other_____

What types(s) of fuel(s) are used in this building? (Circle all that apply)

Natural Gas Electric Coal Fuel Oil Wood Solar Other_____

What type of mechanical ventilation systems are present and/or currently operating in the building? (Circle all that apply)

Central Air Conditioning Mechanical Fans Bathroom Ventilation Fan

Individual Air Conditioning Units Kitchen Range Hood Air-to-Air Heat Exchanger

Open Windows Other_____

Sources of Chemical Contaminants:

Which of these items are present in the building? (Check all that apply)

Potential VOC Source	Location of Source	Used 48 hours prior to sampling (Yes/No/NA)	Use During Sampling (Yes/No/NA)
Paints or paint thinners			
Gas-powered equipment			
Gasoline storage cans			
Cleaning solvents			
Air fresheners			
Oven cleaners			
Carpet/upholstery cleaners			
Hairspray			
Nail polish/polish remover			
Bathroom cleaner			
Appliance cleaner			
Furniture/floor polish			
Moth balls			
Fuel tank			
Wood Stove			
Fireplace			
Perfume/colognes			
Hobby supplies (e.g., solvents, paints, lacquers, glues, photographic darkroom chemicals)			
Scented trees, wreaths, potpourri,etc.			
Other			
Other			

Drinking Water Usage During Sampling(check all that apply)

Showering_____ Cooking_____ Dishwashing_____ Laundry_____
Other:_____

Does one or more smokers occupy this building on a regular basis? (Y/N) _____

Has anybody smoked in the building in the last 48 hours? (Y/N) _____

Does the building have an attached garage? (Y/N) _____

If so, is a car usually parked in the garage? (Y/N) _____

Do the occupants of the building frequently have their clothes dry-cleaned? If so, how often and when was the last time the occupants had their clothes dry-cleaned? _____

Was there any recent remodeling or painting done in the building? (If yes describe) _____

_____

Are there any pressed wood products in the building (e.g., hardwood plywood wall paneling, particle board, fiberboard)? _____

Are there any new upholstery, drapes or other textiles in the building? _____

Has the building been treated with any insecticides/pesticides? If so, what chemicals are used an how often are they applied? _____

_____

_____

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? _____

_____

_____

Weather Conditions During Sampling:

Outside Temperature (°F): _____

Prevailing wind direction: _____

Describe the general weather conditions (e.g., sunny, cloudy, rain): _____

Was there any significant precipitation(0.1 inches) within 12 hours preceding the sampling event?(Y/N) _____

Type of ground cover (e.g., grass, pavement, etc.) Outside the building: _____

General Comments

Is there any other information about the structural features of this building, the habits of its occupants or potential sources of chemical contaminants to the indoor air that may be of importance in facilitating the evaluation of the indoor air quality of the building? _____

_____

_____

(MADEP, 2001;NHDES, 1998; NYDOH, 1997; VDOH, 1993)

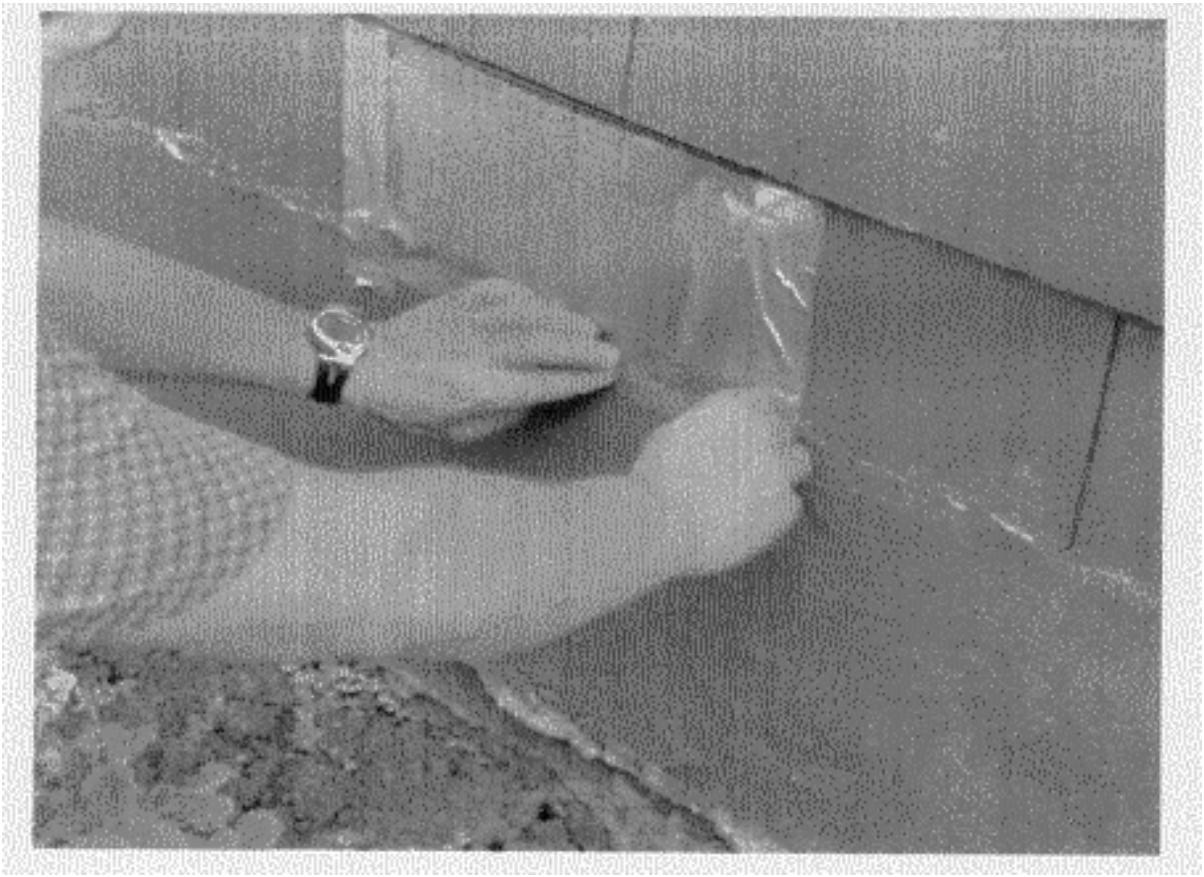
Instructions for Residents

(to be followed starting at least 48 hours prior to and during the sampling event)

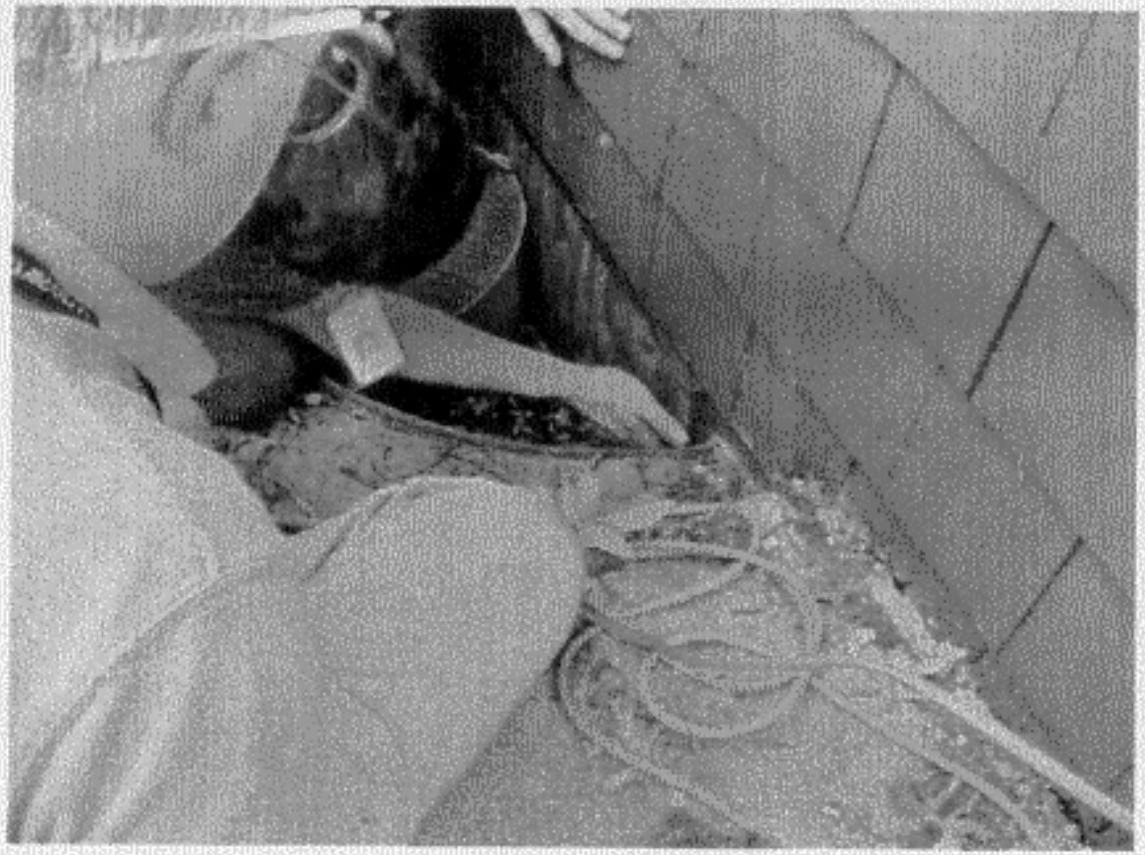
Many of the compounds included in this indoor air sampling program are commonly found and can come from a number of different sources in your home. Please follow these instructions in preparation for the sampling. Failure to do so could affect the accuracy of the study.

Please,

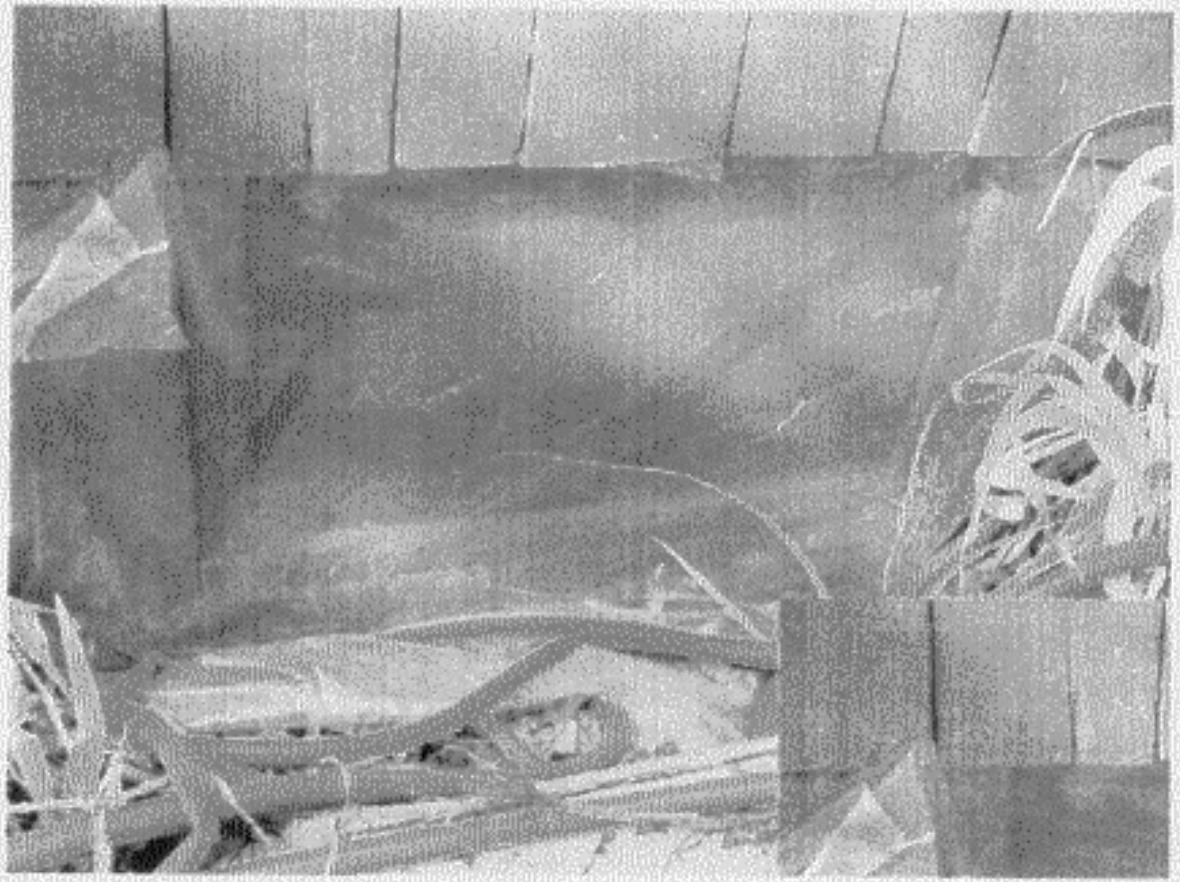
- Do not open windows, fireplace openings or vents.
- Do not keep doors open.
- Do not use air fresheners or odor eliminators.
- Do not smoke in the house
- Do not use wood stoves, fireplace or auxiliary heating equipment (e.g., kerosene heater)
- Do not use paints or varnishes.
- Do not use cleaning products (e.g., bathroom cleaners, furniture polish, appliance cleaners, all-purpose cleaners, floor cleaners).
- Do not use cosmetics, including hair spray, nail polish remover, perfume, etc.
- Do not partake in indoor hobbies that use solvents.
- Do not apply pesticides.
- Do not store containers of gasoline, oil or petroleum-based or other solvents within the house or attached garage (except for fuel oil tanks).
- Do not operate or store automobiles in an attached garage.



Covering crawlspace vent



#5 - Sealing of Crawlspace



#3 - Sealed Crawlspace

Step Three
Sampling Procedures

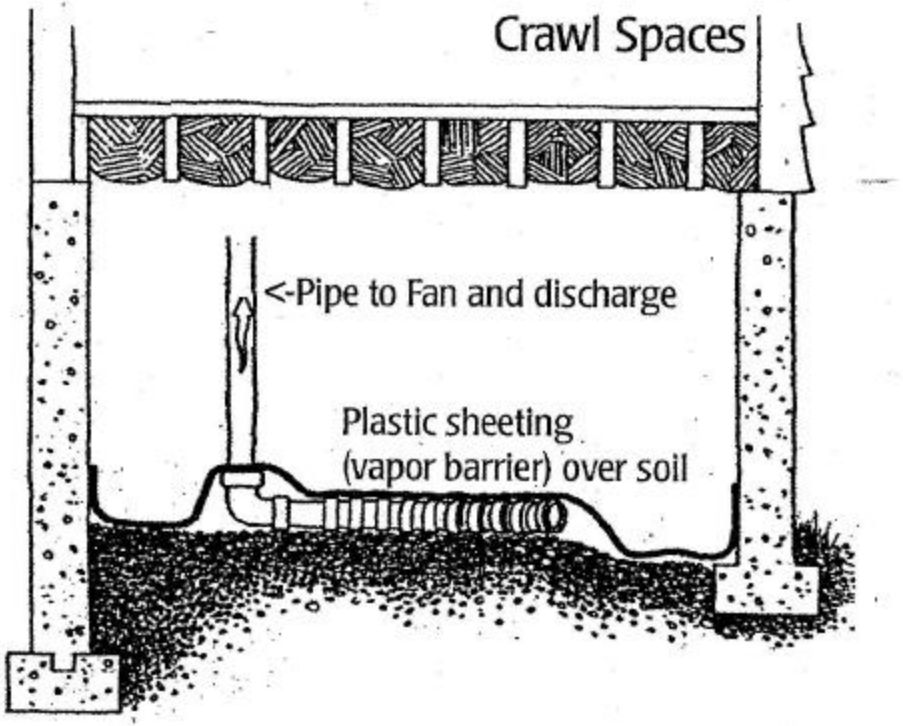
- Sample basements/crawlspaces and main Living Areas
- Take enough samples
- Request Residents to keep windows and doors closed during test
- Keep log of weather conditions and rainfall events

Step Four
Reporting Results

- Bring Copy of results to residents
- Explain results
- Discuss future samplings

Beginning in January 2003, residential ventilation systems will be installed in homes that may be affected by contaminated groundwater. EPA has been working for a number of years to understand the scope of the problem and believes only a few homes are affected.

A licensed contractor will install the ventilation systems in the crawl spaces of homes included in the response action. The floor of the crawl space will be covered with a heavy plastic sheet, and a suction fan and vent piping will be installed to draw air through the system. The systems use very little energy – the equivalent of a light bulb – and maintain a noise level similar to a quiet refrigerator. The figure below depicts an installed ventilation system. For homes with basements, the system will be installed in the basement.



Prior to installing the ventilation systems, an access agreement (please see page 4) must be signed by the homeowner authorizing contractor access to the property. Currently EPA is planning on installing systems in a few homes near the site.

Important Issues to Remember

- Never mail copies of results to residents without an explanation
- Expect a percentage of sampling equipment to be not working properly
- You will need to sample at least twice preferably three or more times
- **You Will Find Contamination in Every Residence**

Important Issues to Remember Cont.

- Weather will play an important role in determining levels of contamination
- Make sure your summa canister has enough of a vacuum to collect an adequate sample

Table 6. 331 S. Keeler - Crawlspace And Indoor Air Results

Sample #	1	2	3	12
Location Description	Crawlspace	Crawlspace	Family Room	Crawlspace
Collection Date	9/11-9/12	9/11-9/12	9/11-9/12	9/19-9/20
Carbon Tetrachloride	0.058 U	0.09 U	0.07 U	28.1
Chloroform	0.045 U	0.069 U	0.055 U	993
Chloromethane	0.0735	0.462	0.176	1150
1,2-Dichloroethane	0.037	0.058 U	0.045 U	3.29 U
1,1-Dichloroethene	0.0443	0.0725	0.044	1.69 U
cis 1,2-Dichloroethene	6.45	1.69	0.766	60.5
trans 1,2-Dichloroethene	0.036 U	0.056 U	0.044 U	3.87 U
Methylene Chloride	0.092 U	1.66	0.166	388
1,1,2,2-Tetrachloroethane	0.063 U	0.098 U	0.077 U	6.84 U
Tetrachloroethene	0.496	0.614	0.414	10.3
1,1,1-Trichloroethane	0.233	0.283	0.277	7.77
Trichloroethene	13.1	22.4	12	104
Vinyl Chloride	0.026	0.052	0.029 U	1.71 U

U: not detected

Concentrations are in ug/m^3: microgram per cubic meter of air